## Introduction to our COSPAR-Sponsored Session:
## Space-Observation Contributions Supporting Climate Action

• The challenge for us at COSPAR in putting this program together was that we are primarily a scientifically oriented organization. "Climate Action," as it is often expressed publicly, tends to be the domain of "activists." As scientists, on the other hand, to retain our credibility – and for the contributions we make to continue carrying the weight of scientific truth – it is critical that we remain evenhanded in our analysis and our reporting of results.

• COSPAR is the Committee on Space Research, and fortunately, much of what we observe from space bears objectively on the attributes of the Earth System and how it is evolving. We can measure from space changes in the cryosphere, in the oceans, the land surface and the atmosphere, frequently, on a global scale, to a degree that is generally not possible any other way. And we have been making such observations, in increasing detail, scope, and precision, for about 60 years.

• These data help us characterize the current state and identify patterns of change in the Earth System that allow us to infer processes and to improve climate models. With modeling we can test and refine our inferences, and make some predictions.  The results can then inform policy and decision-makers, the public in general, as well as those taking direct action.

• So, for today's session we have invited 7 15-minute presentations spanning a broad range of climate-related topics, covering observations from space that can inform climate-related decision-making – from sea-ice extent and sea-level rise, to land surface properties and land-based water resources, to interactions between land or water surfaces and the atmosphere, to severe events in the atmosphere itself.

• We begin with an overview of the observations contributed by one of the premier space agencies, given by NASA Chief Scientist and Senior Climate Advisor Dr. Kate Calvin, which will be followed by talks on what we are learning about specific attributes of the Earth System from space-based measurements that can inform climate-related policy and action.